

Remarks

Claims 1-25, 32-45 and 73-77 are pending in this application and these claims are rejected. By this Amendment, applicants have requested that claims 1, 6-7, 13-15, 18, 23-25, 32, 34, 36-38, 42 and 75 be amended, and claims 5, 10 and 43 -44 be canceled without prejudice, to more specifically claim applicants' invention. Applicants request reconsideration of this application in view of the preceding amendments and the following remarks.

I. Objection to Claims 75-77

Applicants have amended claim 75 to be an independent claim that includes the features of previously canceled claim 47. This amendment addresses the objection to claims 75-77, and applicants therefore request that this objection be withdrawn.

II. Objection to Claims 13-15, 19, 23-25 and 43

Claims 13-15, 19, 23-25 and 43 are objected to under 37 C.F.R. § 1.75(c) as allegedly failing to further limit the subject matter of previous claims from which they depend. Applicants respectfully disagree, traverse the rejection of these claims, and request that the rejection be withdrawn.

Nevertheless, solely to place the present application in condition for allowance, applicants have amended dependent claim 13 to more affirmatively recite structure associated with "pulsed" application of hot air. Support for this amendment can be found, for example, at page 14, line 28-page 15, line 7, and FIGs. 3-6.

Applicants also have amended claims 14-15 and 23-24 to further clarify the movement of the conveyor.

Applicants also have amended claim 18 to state that the apparatus has at least a first pair of gas cells for applying gas to a charge. The addition of plural gas cells as recited in claim 19 further limits claim 18.

Claim 43 has been canceled without prejudice.

III. Rejection of Claims 34, 37-38, 42 and 44

Claims 34, 37-38, 42 and 44 are rejected under 35 U.S.C. § 112, second paragraph.

Applicants traverse these rejections and request that they be withdrawn.

Applicants have requested amendments to certain of these rejected claims to address the stated rejections. Such amendments add no new matter to the claims. In view of applicants' requested amendments, applicants request that the rejections be withdrawn.

More specifically, applicants have amended claim 34 to recite that the densifying apparatus referred to in this claim is a second apparatus.

Applicants also have amended claim 37 to depend from claim 36 to address the antecedent basis issue noted by the Examiner.

Claims 38 and 42 have been amended to further clarify the relationship of the densifying and press cells to the densifying and press apparatuses, respectively.

Claim 44 has been canceled without prejudice.

IV. Claims 34 and 44

Applicants have canceled claim 44 in view of the Examiner's conclusion that claims 34 and 44 are substantially of the same scope. Thus, by canceling claim 44, applicants assert that no prosecution estoppel should apply, since claim 34 remains in the application.

V. Rejection under 35 U.S.C. § 102(b) over Tilby

Claims 1-2, 4, 8-15 and 18-25 are rejected as allegedly being anticipated by Tilby, U.S. Patent No. 5,284,546 (Tilby). Applicants traverse this rejection and request that it be withdrawn.

Applicants have requested that independent claims 1 and 18 be amended to include two additional features that further distinguish applicants' claimed invention from that disclosed in Tilby: a mixer for forming a mixture of filler material and thermoactive material; and shrouds that are positioned about the gas cells. These features were originally recited in claims 5 and 10, respectively.

Tilby concerns forming board products from particular raw materials, such as sugar cane. As is typical with such board products, a binder must be applied to the material to bind the raw material together to form the board product. Tilby discusses the binder at column 3, lines 17-24. Tilby indicates that such binders are liquids, and that such liquid binders are applied to the raw material by "an elongated weir 40 above a conveyor 42 for dripping binder onto the passing strands." Column 5, line 68, through column 6, line 5.

In contrast, applicants' invention is directed to forming board products from waste thermoactive materials that are used as a solid material. These solid thermoactive materials must be mixed with the raw filler materials before they are deposited on the conveyor as recited in claim 1. Tilby teaches using liquid binders, and therefore has no need for such mixer. As a result, the rejection of claim 1 as allegedly being anticipated by Tilby should be withdrawn for this reason alone.

Moreover, Tilby does not render the use of such a mixer obvious. Since Tilby uses a liquid binder, there is no need to mix solid materials. Mixing such materials is discussed in the

application at pages 9-11. The mixing process must account for the differences in the two materials being mixed, while also obtaining a suitably mixed mixture of the two. These features are neither discussed (and hence are not anticipated), nor are the particular aspects associated with mixing the two different types of materials appreciated by Tilby.

Applicants also have requested that independent claims 1 and 18 be amended to include shrouds that substantially surround the gas cells. FIG. 3 of Tilby illustrates applying hot air to the raw fibers with liquid binder applied. But, the gas application zone does not include a second structure that substantially surrounds the gas application apparatus. Applicants' shrouds are discussed on pages 15, which states that the shrouds substantially surround the gas cells to help prevent loss of hot gas. This additional feature is not taught or suggested by Tilby.

For the reasons stated above, claim 1 is not anticipated by, nor is it obvious in view of, Tilby.

Claims 2, 4, and 8-15 depend from claim 1, and claims 19-25 depend from independent claim 18. These dependent claims are allowable for the reasons stated above, and for the patentable combination of features recited in these claims.

VI. Rejection under 35 U.S.C. § 102(b) over Schedin

Claims 1, 3 and 13-17 are rejected as allegedly being anticipated by Schedin, U.S. Patent No. 5,711,972 (Schedin). Applicants traverse this rejection and request that it be withdrawn.

Applicants have requested that independent claim 1 be amended to include the features of a mixer and shrouds positioned about the gas cells. These feature originally appeared in claims 5 and 10, respectively, and these claims were not rejected as being anticipated by Schedin.

Applicants agree that such features are not taught or suggested by Schedin, which is entirely and

solely concerned with the structure of the gas application system. Schedin is silent as to other features of a system, including the mixer and shrouds now recited in applicants' independent claim 1. For these reasons, applicants request that the rejection of independent claim 1 as allegedly being anticipated by Schedin be withdrawn.

Claims 3 and 13-17 depend from independent claim 1. These dependent claims are allowable for the reasons stated concerning independent claim 1, and further in view of the patentable combination of features recited in these dependent claims.

VII. Rejection under 35 U.S.C. § 103(a) over Tilby

Claims 5-7, 18-25, 32-44, 73 and 74 are rejected as allegedly being obvious in view of Tilby. Applicants traverse this rejection and request that it be withdrawn.

Independent claims 1 and 18 of the present application now recite using a mixer. The Office action contends that the use of a mixer is obvious in view of Tilby. Applicants respectfully disagree with this conclusion.

First, Tilby is not directed to forming thermoactive waste and raw solid material composites. Tilby instead uses materials to which liquid binders are applied. As a result, Tilby provides no guidance as to the means for mixing a first solid thermoactive material with a second solid raw material, which has substantial property and weight differences than the raw material. Because Tilby teaches nothing about using thermoactive materials as a binder in a composite product, Tilby can provide no suggestion concerning how to effectively mix such products prior to formation of the composite products. For this reason alone, applicants request that the obviousness rejection in view of Tilby be withdrawn.

Furthermore, applicants have amended independent claims 1 and 18 to include the use of shrouds that substantially surround the gas cells for applying hot gas to the thermoactive raw material. As discussed above, Tilby is silent as to the use of shrouds, and hence can provide no suggestion to use, or the benefits provided by using shrouds that surround gas cells in the hot gas consolidation zone. For these two reasons, applicants contend that claim 1 is not obvious in view of the cited references.

Claims 5-7, 18-25, 32-44, 73 and 74 depend from one of independent claims 1 or 18. Dependent claims 5-7, 18-25, 32-44, 73 and 74 are not obvious for the reasons stated for independent claims 1 and 18, and further in view of the additional combination of features recited in these dependent claims. As a result, applicants request that the rejection under 35 U.S.C. § 103(a) over Tilby be withdrawn.

VIII. Rejection under 35 U.S.C. § 103(a) over Tilby in view of Schedin

The Office action contends that claims 3, 16-17 and 45 are obvious under 35 U.S.C. § 103(a) over the combination of Tilby and Schedin. Applicants traverse this rejection, and request that it be withdrawn.

For the reasons stated above, neither Schedin nor Tilby teaches the use of a mixer for mixing a thermoactive material with a raw material. Furthermore, neither of these references teaches nor suggests the use of shrouds. If neither reference teaches or suggests these claimed features, then it is axiomatic that the combination cannot teach or suggest such features.

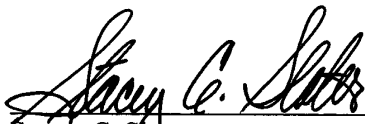
Claims 5-7 depend from independent claim 1, and are allowable for the reasons stated above. Furthermore, applicants note that claim 5 has been canceled, and hence the rejection of this claim has been rendered moot.

Independent claim 18 also has been amended to include the features of a mixer and shrouds to substantially surround the gas cells. Again, for the reasons stated above, these features are not taught or suggested by the combination of Tilby and Schedin.

The present application is in condition for allowance, and such action is requested.

Respectfully submitted,

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